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| EXAMINER | |
|---|---|
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/068,559 | WILLSON ET AL. | |
| | Examiner | Art Unit | |
| | WILLIAM H. BEISNER | 1797 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *10 December 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *50,76,98-105,108-115,119 and 120* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *50,76,98-105,108-115,119 and 120* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 50, 99, 100, 102 and 108 are rejected under 35 U.S.C. 102(e) as being anticipated by Walt et al.(US 6,327,410).

With respect to claim 50, the reference of Walt et al. discloses a method of sensing multiple analytes in a fluid that includes passing a fluid over a sensor array wherein the sensor array includes a plurality of sensing elements coupled to a supporting member, wherein a first portion of the sensing elements are configured to produce a signal in the presence of a first analyte and wherein a second portion of the sensing elements are configured to produce a signal in the presence of a second analyte. The first and second portions of the sensing elements have unique predetermined optical signatures or tags wherein the optical signature or tag of the first portion of sensing elements is different from the optical signature or tag of the second portion of sensing elements. The method includes monitoring a spectroscopic change of the sensing elements as the fluid is passed over the sensing array, wherein the spectroscopic change is caused by the interaction of the analyte with the sensing element and determining the unique optical signature of the sensing elements that undergo a spectroscopic change (See column 13, lines 8-

24, and column 15, line 64, to column 16, line 20). Note the sensing elements are beads having receptors coupled thereto and the reference discloses that the "beads need not be spherical; irregular particles may be used" (See column 7, lines 32-40).

With respect to claim 99, the sensing elements are placed near the surface of the liquid composition (See column 17, line 47, to column 18, line 2).

With respect to claim 100, the reference of Walt et al. discloses that the sensing elements can be made from a polymer (See column 7, lines 20-41).

With respect to claim 102, the reference of Walt et al. discloses a number of receptors that can be used and produce a signal when they interact with an analyte (See column 13, lines 8-57).

With respect to claim 108, the receptors can be a nucleic acid (See column 7, line 55, to column 8, line 3).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 50, 76, 98-100, 102, 108, 109, 111, 113, 119 and 120 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walt et al.(US 6,327,410) in view of Felder et al.(US 6,232,066), Chang et al.(US 6,350,620) or Ravkin et al.(US 2003/0008323) taken further in view of Pope (US 5,496,997) and Dakss et al.(US 4,269,648) and taken further in view of Peters, Jr. et al.(US 5,013,669).

The reference of Walt et al. discloses a method of sensing multiple analytes in a fluid that includes passing a fluid over a sensor array wherein the sensor array includes a plurality of sensing elements coupled to a supporting member, wherein a first portion of the sensing elements are configured to produce a signal in the presence of a first analyte and wherein a second portion of the sensing elements are configured to produce a signal in the presence of a second analyte. The first and second portions of the sensing elements have unique predetermined optical signatures or tags wherein the optical signature or tag of the first portion

of sensing elements is different from the optical signature or tag of the second portion of sensing elements. The method includes monitoring a spectroscopic change of the sensing elements as the fluid is passed over the sensing array, wherein the spectroscopic change is caused by the interaction of the analyte with the sensing element and determining the unique optical signature of the sensing elements that undergo a spectroscopic change (See column 13, lines 8-24, and column 15, line 64, to column 16, line 20).

With respect to claim 76, while the reference of Walt et al. disclose the use of unique predetermined optical signatures or tags that include the use of beads of different size (See column 18, lines 48-58, and column 19, lines 6-13), claim 76 differs by reciting that the method employs sensing elements (beads) of different shapes wherein the sensing element undergoing a spectroscopic change is identified by its shape.

The reference of Felder et al. discloses that it is known in the art to provide analyte detection beads with unique optical signatures or tags wherein the beads can be of different size or shape (See column 8, lines 49-56).

The reference of Chang et al. discloses that it is known in the art to provide analyte detection beads with unique optical signatures or tags wherein the beads can be of different size or shape (See column 3, lines 33-39).

The reference of Ravkin et al. discloses that it is known in the art to provide analyte detection beads with unique optical signatures or tags wherein the beads can be of different size or shape (See paragraphs [0096], [0137] and [0139]).

In view of any of these teachings, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a unique optical signature with respect to

the beads of the primary reference of Walt et al. using beads of different shapes for the known and expected result of providing an alternative means recognized in the art to achieve the same result, providing a means for optically distinguishing one sensing element from another. Use of beads of different shape rather than size would eliminate the need to employ different sized optical fibers required to detect the beads of different size. The same types of optical fibers would be capable of detecting beads of similar size but different shapes.

With respect to Claim 76, while the reference of Walt et al. discloses that immobilization of the different sensing elements to substrate (212) to form a sensing array includes placing the sensing elements in a liquid composition and curing the liquid composition to form a supporting member, wherein the sensing elements are at least partially embedded within the cured liquid composition (See column 17, line 47, to column 18, line 2), the claim further differs by reciting that the sensing elements are disposed **on or at an exterior surface of a cured liquid composition** for supporting the sensing elements.

The reference of Pope discloses that it is conventional in the art to immobilize an analysis particle (311) with respect to an optical fiber (312) using an adhesive composition (315).

The reference of Dakss et al. discloses that it is known in the art to immobilize a particle (11) with respect to an optical fiber (16) using a cured liquid composition (14) wherein the particle is disposed on or at the exterior surface of the cured liquid composition (See column 3, lines 20-40).

In view of these disclosures, it would have been obvious to one of ordinary skill in the art to immobilize the analysis particles of the modified primary reference using a cured liquid composition as suggested by the references of Pope and Dakss et al. for the known and expected

result of providing an alternative means recognized in the art to achieve the same result, immobilization of the analysis particles relative to the optical sensing components. This immobilization technique allows the analysis particle to be in direct contact with the test sample.

While the reference of Walt et al. discloses the use of porous polymer beads (See column 7, lines 20-41) and the use of a number of receptors that can be attached to the beads (See column 7, line 55, to column 12, line 62) the reference does not specifically disclose that the receptors are at least partially encapsulated within the polymer material forming the sensing elements.

The reference of Peters, Jr. et al. discloses that it is conventional in the art to encapsulate receptor molecules (See column 8, lines 54-67) within the pores of porous polymer bodies (See column 6, line 53, to column 7, line 37). The receptors are encapsulated within the pores of the bodies using a polymer (See column 7, line 48, to column 8, line 53).

In view of this teaching, it would have been obvious to one of ordinary skill in the art to encapsulate the receptors of modified primary reference using the method disclosed by the reference of Peters, Jr. et al. for the known and expected results of avoiding the disadvantages associated with other known techniques for attaching the receptors to the solid support material (See column 1, line 5, to column 3, line 37).

With respect to claim 50, manufacture of the test device as suggested above would meet the method steps recited in claim 50.

With respect to claim 98, the method suggested by Peters, Jr. et al. includes polymerizing a monomer composition.

With respect to claim 99, the sensing elements are placed near the surface of the liquid composition (See column 17, line 47, to column 18, line 2).

With respect to claims 100 and 109, the reference of Walt et al. discloses that the sensing elements can be made from a polymer (See column 7, lines 20-41).

With respect to claims 102 and 111, the reference of Walt et al. discloses a number of receptors that can be used and produce a signal when they interact with an analyte (See column 13, lines 8-57).

With respect to claims 103 and 113, the modifications suggested in the combination of references discussed above would result in sensing elements that include non-spherical shape.

With respect to claim 108, the receptors can be a nucleic acid (See column 7, line 55, to column 8, line 3).

With respect to claims 119 and 120, the method suggested by the reference of Peters, Jr. et al. would result in the sensing element being formed using a mixture of monomer and receptor (See column 11, lines 1-30 of Peters, Jr. et al.).

7. Claim 103 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walt et al.(US 6,327,410) in view of Felder et al.(US 6,232,066), Chang et al.(US 6,350,620) or Ravkin et al.(US 2003/0008323) taken further in view of Pope (US 5,496,997) and Dakss et al.(US 4,269,648); taken further in view of Peters, Jr. et al.(US 5,013,669) and taken further in view of Wang et al.(US 5,922,617).

The combination of the reference of Walt et al. with either Felder et al., Change et al. or Ravkin et al. and further in view of Pope, Dakss et al. and Peters et al. has been discussed above.

While the modified primary reference as discussed above suggests the use of different shaped beads, claim 103 specifies that the shape is a cross, square or triangle.

The reference of Wang et al. discloses when using detection beads similar to that of the modified primary reference, it is known in the art to employ a "square" shape (See Figure 2E).

In view of this teaching, it would have been obvious to one of ordinary skill in the art to employ any known shape for the detection beads, including a square, as is conventional in the art while providing the expected result of providing a solid support for the receptors of different distinguishable shapes.

8. Claims 50, 76, 98-105, 108-111, 113-115, 119 and 120 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walt et al.(US 6,327,410) in view of Felder et al.(US 6,232,066), Chang et al.(US 6,350,620) or Ravkin et al.(US 2003/0008323) taken further in view of Pope (US 5,496,997) and Dakss et al.(US 4,269,648) and taken further in view of Kaetsu et al.(US 4,194,066).

The reference of Walt et al. discloses a method of sensing multiple analytes in a fluid that includes passing a fluid over a sensor array wherein the sensor array includes a plurality of sensing elements coupled to a supporting member, wherein a first portion of the sensing elements are configured to produce a signal in the presence of a first analyte and wherein a second portion of the sensing elements are configured to produce a signal in the presence of a second analyte. The first and second portions of the sensing elements have unique predetermined optical signatures or tags wherein the optical signature or tag of the first portion of sensing elements is different from the optical signature or tag of the second portion of sensing

elements. The method includes monitoring a spectroscopic change of the sensing elements as the fluid is passed over the sensing array, wherein the spectroscopic change is caused by the interaction of the analyte with the sensing element and determining the unique optical signature of the sensing elements that undergo a spectroscopic change (See column 13, lines 8-24, and column 15, line 64, to column 16, line 20).

With respect to claim 76, while the reference of Walt et al. disclose the use of unique predetermined optical signatures or tags that include the use of beads of different size (See column 18, lines 48-58, and column 19, lines 6-13), claim 76 differs by reciting that the method employs sensing elements (beads) of different shapes wherein the sensing element undergoing a spectroscopic change is identified by its shape.

The reference of Felder et al. discloses that it is known in the art to provide analyte detection beads with unique optical signatures or tags wherein the beads can be of different size or shape (See column 8, lines 49-56).

The reference of Chang et al. discloses that it is known in the art to provide analyte detection beads with unique optical signatures or tags wherein the beads can be of different size or shape (See column 3, lines 33-39).

The reference of Ravkin et al. discloses that it is known in the art to provide analyte detection beads with unique optical signatures or tags wherein the beads can be of different size or shape (See paragraphs [0096], [0137] and [0139]).

In view of any of these teachings, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a unique optical signature with respect to the beads of the primary reference of Walt et al. using beads of different shapes for the known

and expected result of providing an alternative means recognized in the art to achieve the same result, providing a means for optically distinguishing one sensing element from another. Use of beads of different shape rather than size would eliminate the need to employ different sized optical fibers required to detect the beads of different size. The same types of optical fibers would be capable of detecting beads of similar size but different shapes.

With respect to Claim 76, while the reference of Walt et al. discloses that immobilization of the different sensing elements to substrate (212) to form a sensing array includes placing the sensing elements in a liquid composition and curing the liquid composition to form a supporting member, wherein the sensing elements are at least partially embedded within the cured liquid composition (See column 17, line 47, to column 18, line 2), the claim further differs by reciting that the sensing elements are disposed **on or at an exterior surface of a cured liquid composition** for supporting the sensing elements.

The reference of Pope discloses that it is conventional in the art to immobilize an analysis particle (311) with respect to an optical fiber (312) using an adhesive composition (315).

The reference of Dakss et al. discloses that it is known in the art to immobilize a particle (11) with respect to an optical fiber (16) using a cured liquid composition (14) wherein the particle is disposed on or at the exterior surface of the cured liquid composition (See column 3, lines 20-40).

In view of these disclosures, it would have been obvious to one of ordinary skill in the art to immobilize the analysis particles of the modified primary reference using a cured liquid composition as suggested by the references of Pope and Dakss et al. for the known and expected result of providing an alternative means recognized in the art to achieve the same result,

immobilization of the analysis particles relative to the optical sensing components. This immobilization technique allows the analysis particle to be in direct contact with the test sample.

While the reference of Walt et al. discloses the use of porous polymer beads (See column 7, lines 20-41) and the use of a number of receptors that can be attached to the beads (See column 7, line 55, to column 12, line 62) the reference does not specifically disclose that the receptors are at least partially encapsulated within the polymer material forming the sensing elements.

The reference of Kaetsu et al. discloses that is it known in the art to form porous polymer particles that include biological active materials by mixing a monomer and the receptors prior to forming the final porous body (See column 3, lines 10-53) wherein the biological active material (receptor) is at least partially encapsulated in the polymer body formed.

In view of this teaching, it would have been obvious to one of ordinary skill in the art to encapsulate the receptors of modified primary reference using the method disclosed by the reference of Kaetsu et al. for the known and expected results of avoiding the disadvantages associated with other known techniques for encapsulating or attaching the receptors to the solid support material (See column 1, line 5, to column 2, line 7).

With respect to claim 50, manufacture of the test device as suggested above would meet the method steps recited in claim 50.

With respect to claim 98, the method suggested by Kaetsu et al. includes polymerizing a monomer composition.

With respect to claim 99, the sensing elements are placed near the surface of the liquid composition (See column 17, line 47, to column 18, line 2).

With respect to claims 100 and 109, the reference of Walt et al. discloses that the sensing elements can be made from a polymer (See column 7, lines 20-41).

With respect to claims 101, 104, 105, 110, 114 and 115, the reference of Kaetsu et al. discloses that the polymer body can comprise polyethylene glycol, including polyethylene glycol diacrylate (See column 5, lines 45-50).

With respect to claims 102 and 111, the reference of Walt et al. discloses a number of receptors that can be used and produce a signal when they interact with an analyte (See column 13, lines 8-57).

With respect to claim 113, the modifications suggested in the combination of references discussed above would result in sensing elements that include non-spherical shape.

With respect to claim 108, the receptors can be a nucleic acid (See column 7, line 55, to column 8, line 3).

With respect to claims 119 and 120, the method suggested by the reference of Kaetsu et al. would result in the sensing element being formed using a mixture of monomer and receptor (See column 11, lines 1-30 of Peters, Jr. et al.).

9. Claim 103 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walt et al.(US 6,327,410) in view of Felder et al.(US 6,232,066), Chang et al.(US 6,350,620) or Ravkin et al.(US 2003/0008323) taken further in view of Pope (US 5,496,997) and Dakss et al.(US 4,269,648); taken further in view of Kaetsu et al.(US 4,194,066)and taken further in view of Wang et al.(US 5,922,617).

The combination of the reference of Walt et al. with either Felder et al., Change et al. or Ravkin et al. and further in view of Pope, Dakss et al. and Kaetsu et al. has been discussed above.

While the modified primary reference as discussed above suggests the use of different shaped beads, claim 103 specifies that the shape is a cross, square or triangle.

The reference of Wang et al. discloses when using detection beads similar to that of the modified primary reference, it is known in the art to employ a "square" shape (See Figure 2E).

In view of this teaching, it would have been obvious to one of ordinary skill in the art to employ any known shape for the detection beads, including a square, as is conventional in the art while providing the expected result of providing a solid support for the receptors of different distinguishable shapes.

***Response to Amendment***

10. The declaration filed on 8/27/2007 under 37 CFR 1.131 has been considered but is ineffective to overcome the Chang and Ravkin references for the following reasons.

The declaration is deficient:

i) The declaration fails to establish that conception and completion of the invention occurred in this country or in a NAFTA or WTO member country (See MPEP Section 715.07(c)).

ii) The evidence submitted is insufficient to establish diligence from a date prior to the effective date of Chang and Ravkin references to either a constructive reduction to practice or an actual reduction to practice. Note while the provisional application may establish that the invention was either actually reduced to practice or constructively reduced to practice, the

declaration is still device of factual statements and/or evidence that establish the diligence existed from a date prior to the effective dates of the references to the filing date of the provisional application. Additionally note, when applicant is relying upon conception and diligence, the declaration must set forth the acts relied upon as well as the dates when those acts were performed when attempting to show diligence.

iii) The declaration has not been signed by all of the listed applicants.

***Response to Arguments***

11. With respect to the rejection of Claims 50, 76, 98-100, 102, 103, 108, 109, 111, 113 and 118-120 under 35 U.S.C. 103(a) as being unpatentable over Walt et al.(US 6,327,410) in view of Felder et al.(US 6,232,066), Chang et al.(US 6,350,620) or Ravkin et al.(US 2003/0008323) taken further in view of Pope (US 5,496,997) and Dakss et al.(US 4,269,648) and taken further in view of Peters, Jr. et al.(US 5,013,669) and the rejection of Claims 50, 76, 98-105, 108-111, 113-115 and 118-120 under 35 U.S.C. 103(a) as being unpatentable over Walt et al.(US 6,327,410) in view of Felder et al.(US 6,232,066), Chang et al.(US 6,350,620) or Ravkin et al.(US 2003/0008323) taken further in view of Pope (US 5,496,997) and Dakss et al.(US 4,269,648) and taken further in view of Kaetsu et al.(US 4,194,066), Applicants argue that the rejection is improper for the following reasons:

i) *Applicants have amended Claim 50 to specify that the polymeric material (and thus the sensing element) is non-spherical. This is supported in the present specification at page 11, lines 12-13. Thus, beads of different sizes are not relevant to the subject matter of Claim 50. The change is not trivial since the use of different shapes is what 1) translates the signal into*

*meaningful information (see page 11, lines 9-10: "The sensing elements may have unique shapes, each of the shapes being associated with one or more analytes.") and 2) permits the use of random (rather than ordered) arrays (see page 18, lines 26-27: "FIG 16A depicts an array of cross, square, and triangle shaped sensing elements formed using the random arraying approach.")* (See pages 7-8 of the response filed 12/10/2007).

In response, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, while the reference of Walt et al. discusses the use of beads of different sizes associated with one or more analytes, the references of Felder, Chang and Ravkin have been cited to evidence that it is also known to use solid support material (beads or particles) of different shapes to allow the different analytes to be optically distinguished from one another as is done in the instant invention. It is further noted that Applicants comments are not even commensurate in scope with the language of Claim 50. Claim 50 merely requires the use of a non-spherical shape. The claim language is totally silent with respect to a shape being associated with one or more analytes.

ii) *Applicants submit that there is not basis for combining the "bead" art of Walt with the other cited references and that the Examiner's statement that it would be "obvious" to substitute sensing elements of different shapes for the beads of Walt is without any factual foundation. The Walt system involves microspheres in wells along with a optical fiber detection scheme. The Examiner has provided no concrete basis for why one skilled in the art would displace this*

*system or how such modifications would function, let alone demonstrate improved function over what Walt actually teaches.* (See page 8 of the response filed 12/10/2007).

In response, Applicants' comments are not found to be persuasive. It is noted that the reference of Walt et al. clearly discloses the use of non-spherical beads (See column 7, lines 33-34) and that the use of beads of different sizes can be used to identify attached bioactive agents (See column 13, lines 7-24, and column 19, lines 7-30). The reference of Felder et al. discloses particles or beads of different size or shape can be used to identify attached bioactive agents as is done in the reference of Walt et al. (See column 8, lines 55-61); the reference of Chang et al. discloses particles or beads of different size or shape can be used to identify attached bioactive agents as is done in the reference of Walt et al. (See column 3, lines 22-39); and the reference of Ravkin et al. discloses particles or beads of different shape can be used to identify attached bioactive agents as is done in the reference of Walt et al. (See paragraphs [0137] and[0139]). As stated in the rejection of record, one of ordinary skill in the art when presented with these teachings would have recognized that particles of different shapes could be used in the system of the reference of Walt et al. for the known and expected result of merely using an alternative means recognized in the art to achieve the same result, identification of the attached bioactive agent with respect to different detection beads (sensing elements).

iii) *Applicants submit herewith a Rule 131 Declaration swearing behind the December 1, 2000 filing date of Chang et al. The Examiner is also asked to note that the evidence provided predates the changes in the rules for determining 102(e)/103 that would permit the Ravkin publication to be considered proper prior art. Without the Change and Ravkin art, the obviousness rejection cannot be maintained.*

In response, the Rule 132 declaration is deficient for reasons already of record and therefore the rejection in view of these references has not been overcome. With respect to Applicants' comments concerning "the rules for determining 102(e)/103 that would permit the Ravkin publication to be considered proper prior art, the Examiner maintains that the reference of Ravkin is considered proper prior art (See MPEP 706.02(f)(1)).

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The reference of Wang et al.(US 5,922,617) is cited of interest as showing common knowledge in the art with respect to the use of different shaped particles to differentiate between different bound component (See column 14, lines 9-12).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM H. BEISNER whose telephone number is (571)272-1269. The examiner can normally be reached on Tues. to Fri. and alt. Mon. from 6:15am to 3:45pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys J. Corcoran can be reached on 571-272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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WHB